

ADDITIONAL NOTES ON THE ERIOCAULACEAE. XXXVII

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ERIOCAULACEAE Lindl.

Additional & emended bibliography: Harv., Gen. S. Afr. Pl., ed. 2, 411. 1868; Nakai, Bull. Géogr. Bot. 21: 139—140. 1911; Harshberger, Veg. N. J. Pine Barrens, pr. 1, 5, 121, 122, 139, 145, 146, 148, 149, 182, 184, 190, 191, 200, 215, 253, 307, & 324. 1916; Hooper, Gard. Bull. Straits Settl. 6: 59. 1929; R. S. Lamotte, Geol. Soc. Am. Mem. 51: [Cat. Cenoz. Pl. N. Am.] 157 & 369. 1952; Anon., Bull. Torrey Bot. Club Index Vols. 1—75, p. 71. 1955; Burkill, Dict. Econ. Prod. Malay Penins. 1: 953. 1966; J. A. Steyerm., Act. Bot. Venez. 1 (3/4): 12, 15, 19, 22, 40, 41, 47, 50, 69, 72, 78, 87, 89, 91, 94, 98, 122, 135, 148, 155, 181, 195, 208, 222—223, 238, & 246—247. 1966; Lasser, Act. Bot. Venez. 4: 35. 1969; Van der Schijff, Check List Vasc. Pl. Kruger Natl. Park 20 & 36. 1969; Harshberger, Veg. N. J. Pine Barrens, pr. 2, 5, 121, 122, 139, 145, 146, 148, 149, 182, 184, 190, 191, 200, 215, 253, 307, & 324. 1970; Domville & Dunbar, John Burroughs Nat. Hist. Soc. Bull. 8: 32. 1970; J. Muller, Biol. Rev. 45: 424. 1970; Moldenke, Phytologia 21: 267—278. 1971; Koyama in E. H. Walker, Journ. Jap. Bot. 46: 67. 1971.

BLASTOCAULON PROSTRATUM (Körn.) Ruhl.

Additional bibliography: Moldenke, Phytologia 20: 340, 422, & 423. 1970.

Irwin and his associates describe this plant as a delicate herb to 7 cm. tall, with white flower-heads, and found it growing in wet crevices on a cliff-face in an area of cerrado and low forests among sandstone outcrops in summit gray sandy soil, at an altitude of 1200 meters, flowering in March.

Additional citations: BRAZIL: Minas Gerais: Irwin, Fonsêca, Souza, Reis dos Santos, & Ramos 27099 (Rf).

CARPTOTEPALA Moldenke

Additional bibliography: J. A. Steyerm., Act. Bot. Venez. 1 (3/4): 181. 1966; Moldenke, Phytologia 21: 268. 1971.

CARPTOTEPALA JENMANI (Gleason) Moldenke

Additional bibliography: J. A. Steyerm., Act. Bot. Venez. 1 (3/4): 181. 1966; Moldenke, Phytologia 21: 268. 1971.

Additional citations: VENEZUELA: Bolívar: Hertel & Oberwinkler 15302 (Mu).

ERIOCAULON Gron.

Additional & emended bibliography: Harv., Gen. S. Afr. Pl., ed. 2, 411. 1868; Nakai, Bull. Géogr. Bot. 21: 139—140. 1911; Harshberger, Veg. N. J. Pine Barrens, pr. 1, 5, 121, 122, 139, 145, 146, 148, 149, 190, 191, 200, 215, 253, 307, & 324. 1916; Hooper,

Gard. Bull. Straits Settl. 6: 59. 1929; R. S. Lamotte, Geol. Soc. Am. Mem. 51: [Cat. Cenoz. Pl. N. Am.] 157 & 369. 1952; Burkill, Dict. Econ. Prod. Malay Penins. 1: 953. 1966; J. A. Steyerma., Act. Bot. Venez. 1 (3/4): 15, 19, & 195. 1966; Harshberger, Veg. N. J. Pine Barrens, pr. 2, 5, 121, 122, 139, 145, 146, 148, 149, 190, 191, 200, 215, 253, 307, & 324. 1970; Domville & Dunbar, John Burroughs Nat. Hist. Soc. Bull. 8: 32. 1970; Moldenke, Phytologia 21: 268--273. 1971; Koyama in E. H. Walker, Journ. Jap. Bot. 46: 67. 1971.

ERIOCAULON ABYSSINICUM Hochst.

Additional bibliography: Van der Schijff, Check List Vasc. Pl. Kruger Natl. Park 36. 1969; Moldenke, Phytologia 20: 6. 1970; Moldenke, Biol. Abstr. 51: 11903. 1970.

Van der Schijff (1969) found this plant growing in moist places and cites Van der Schijff 2844.

ERIOCAULON CINEREUM R. Br.

Additional bibliography: Moldenke, Phytologia 21: 271. 1971.

Cook & Gut found this plant growing in paddy-fields and "very common on banks of very old large tank with permanent water, along with Glossostigma sp., the leaves submerged, flowering as it becomes exposed to air", fruiting in October and November.

Additional citations: INDIA: Kerala: Cook & Gut 221 (Ac). Rajasthan: Cook & Gut 61 (Rf).

ERIOCAULON COMPRESSUM Lam.

Additional bibliography: Harshberger, Veg. N. J. Pine Barrens, pr. 1, 139, 149, 191, & 200 (1916) and pr. 2, 139, 149, 191, & 200. 1970; Moldenke, Phytologia 21: 272. 1971.

Harshberger (1916) reports that in New Jersey this plant flowers in the "second half of May and June".

ERIOCAULON DECANGULARE L.

Additional bibliography: Harshberger, Veg. N. J. Pine Barrens, pr. 1, 121, 122, 139, 148, 149, 190, 191, 200, & 215 (1916) and pr. 2, 121, 122, 139, 148, 149, 190, 191, 200, & 215. 1970; Moldenke, Phytologia 21: 270 & 272. 1971.

Harshberger (1916) reports that in New Jersey the species grows in cedar swamps in small circular pools of water with Castalia odorata, Rhynchospora alba, Sarracenia purpurea, etc., and flowers and fruits from July 15 to October 5.

ERIOCAULON DICTYOPHYLLUM Körn.

Additional bibliography: Moldenke, Phytologia 20: 405. 1970.

Irwin and his associates state that the inflorescences of this plant attain a height of 30 cm. and that the flower-heads are gray when fresh. They found it growing on a periodically flooded river island.

Additional citations: BRAZIL: Mato Grosso: Irwin, Souza, Grear, & Reis dos Santos 16797 (Ac).

ERIOCAULON FENESTRATUM Bojer

Additional bibliography: Moldenke, *Phytologia* 20: 407. 1970.

Bogner collected this species at 1200 meters altitude, flowering and fruiting in November.

Additional citations: MADAGASCAR: Bogner 349 (Mu).

ERIOCAULON GIBBOSUM Körn.

Additional bibliography: Moldenke, *Phytologia* 21: 273. 1971.

Irwin and his associates describe this plant as producing inflorescences to 15 cm. tall, the flower-heads grayish, and found it growing in a wet campo between gallery forest and cerrado, at 550 meters altitude, flowering and fruiting in June.

Additional citations: BRAZIL: Mato Grosso: Irwin, Grear, Souza, & Reis dos Santos 16417 (N).

ERIOCAULON HETEROLEPIS Steud.

Additional bibliography: Moldenke, *Phytologia* 20: 410. 1970.

The Stocks, Law, &c. s.n., cited below, was originally cited by me as E. diana var. longibracteatum Fyson, apparently in error. The collection was distributed in herbaria under the names E. rouxianum Steud., E. minimum Lam., and E. xeranthemum Mart., but Schultes notes on the label "Certe non est E. xeranthemum Mart."

Additional citations: INDIA: Kerala: Stocks, Law, &c. s.n. [Malabar, Concan, &c.] (Mu--262).

ERIOCAULON HUMBOLDTII Kunth

Additional bibliography: Moldenke, *Phytologia* 21: 273. 1971.

This plant has been collected at altitudes of 500--800 meters.

Additional citations: VENEZUELA: Bolívar: Hertel & Oberwinkler 15349 (Mu).

ERIOCAULON HUMILE Moldenke

Additional bibliography: Moldenke, *Phytologia* 20: 411. 1970.

Recent collectors have found this plant growing in the more or less permanently moist zone at the base of a waterfall, flowering in November. Material has been misidentified and distributed in herbaria as E. minutum Hook.

Additional citations: INDIA: Mysore: Cook & Gut 187 (Ac).

ERIOCAULON LANCEOLATUM Miq.

Additional bibliography: Moldenke, *Phytologia* 20: 13. 1970.

Cook & Gut found this species growing on wet rocks, flowering and fruiting in November.

Additional citations: INDIA: Kerala: Cook & Gut 232 (Z).

ERIOCAULON LEPTOPHYLLUM Kunth

Additional bibliography: Moldenke, *Phytologia* 20: 13. 1970.

Irwin and his associates describe this plant as producing inflorescences to 15 cm. tall and found it growing in running water on red clay on a wet campo, at 1000 m. altitude, flowering in January.

Additional citations: BRAZIL: Minas Gerais: Irwin, Onishi, Fonsêca, Souza, Reis dos Santos, & Ramos 25641 (Rf).

ERIOCAULON LUTCHUENSE Koidz.

This taxon now is known as E. miquelianum var. lutchuense (Koidz.) Koyama.

ERIOCAULON LUZULAEFOLIUM Mart.

Additional synonymy: Eriocaulon luzulaefolium Mart., in herb.

Additional bibliography: Moldenke, *Phytologia* 21: 275. 1971.

The Cook & Gut 171, distributed as E. luzulaefolium, is actually E. quinquangulare L.

ERIOCAULON MINUTUM Hook. f.

Additional bibliography: Moldenke, *Phytologia* 19: 347 (1970) and 20: 28. 1970.

The Cook & Gut 187, distributed as E. minutum, is actually E. humile Moldenke.

ERIOCAULON MIQUELIANUM Körn.

Additional bibliography: Moldenke, *Phytologia* 21: 278. 1971; Koyama in E. H. Walker, *Journ. Jap. Bot.* 46: 67. 1971.

ERIOCAULON MIQUELIANUM var. LUTCHUENSE (Koidz.) Koyama

Additional synonymy: Eriocaulon lutchuense Koidz., *Bot. Mag. Tokyo* 28: 171. 1914.

Additional bibliography: Moldenke, *Phytologia* 21: 275 & 429. 1971; Koyama in E. H. Walker, *Journ. Jap. Bot.* 46: 67. 1971.

ERIOCAULON MODESTUM Kunth

Additional bibliography: Malme, *Bih. Svensk. Vet. Akad. Handl.* 27 (3), no. 11: 32--33. 1901; Moldenke, *Phytologia* 20: 15. 1970.

ERIOCAULON MODESTUM var. EREVIFOLIUM Moldenke

Bibliography: Moldenke, *Phytologia* 21: 417. 1971.

Irwin and his associates have found this plant growing locally common in wet places in cerrado or locally frequent on wet campos on rocky hillsides, at altitudes of 1100 to 1250 m., flowering in January and March. They describe the plant as a rosette herb, the "solitary" inflorescences to 40 cm. tall, light-gray in color.

Citations: BRAZIL: Distrito Federal: Irwin, Souza, & Reis dos Santos 11677 (Rf). Goiás: Irwin, Grear, Souza, & Reis dos Santos 13498 (Ac), 13781 (Z--type).

ERIOCAULON MOLINAE L. O. Williams

Additional bibliography: Hocking, *Excerpt. Bot. A.* 13: 510. 1968; Moldenke, *Phytologia* 19: 81 & 101. 1969.

ERIOCAULON MONOCOCCOS Nakai

Additional bibliography: Moldenke, *Phytologia* 3: 144. 1949; Koy-

ama in Ohwi, Fl. Jap. 269. 1965; Moldenke, Phytologia 19: 81. 1969.

ERIOCAULON MONTANUM Van Royen

Additional bibliography: K. U. Kramer, Excerpt. Bot. A.6: 33. 1963; Moldenke, Phytologia 19: 409. 1970; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970.

ERIOCAULON MUTATUM N. E. Br.

Additional & emended bibliography: Moldenke, Phytologia 3: 143. 1949; H. Hess, Bericht. Schweiz. Bot. Ges. 67: 88--90. 1957; Moldenke, Phytologia 19: 82 (1969) and 19: 457 & 458. 1970.

ERIOCAULON NAKASIMANUM Satake

Synonymy: Eriocaulon atrum var. nakasimanum (Satake) Koyama in Ohwi, Fl. Jap. 270. 1965.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Koyama in Ohwi, Fl. Jap. 270. 1965; Moldenke, Phytologia 18: 321--322 (1929) and 20: 247 & 248. 1970.

Koyama (1965) records the vernacular "tsukushi-kuro-inu-no-hige" and says that the taxon differs from E. atrum Nakai only in "the glabrous receptacle, not blackish involucre, and quite glabrous petals".

ERIOCAULON NANELLUM Ohwi

Synonymy: Eriocaulon nanellum var. nanellum Koyama in Ohwi, Fl. Jap. 270. 1965.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Koyama in Ohwi, Fl. Jap. 266 & 270. 1965; Moldenke, Phytologia 19: 347--348. 1970.

Koyama (1965) records the vernacular variant "miyama-hina-hoshi-kusa" and affirms that the species is known only from the high mountains of the northern districts of Honshu island. The E. nanellum var. nosoriense (Ohwi) Ohwi & Koyama is discussed by me under E. nosoriense Ohwi, which see.

ERIOCAULON NANELLUM var. ALBESCENS Satake

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Koyama in Ohwi, Fl. Jap. 270. 1965; Moldenke, Phytologia 18: 323. 1969.

Koyama (1965) records the vernacular variant "shirobana-miyama-hina-hoshi-kusa" and tells us that the plant differs from the typical form of the species in having the flower "Heads greenish, not blackish; pistillate calyces also greenish".

ERIOCAULON NANELLUM var. FILAMENTOSUM (Satake) Satake

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Koyama in Ohwi, Fl. Jap. 270. 1965; Moldenke, Phytologia 18: 323--324. 1969.

Koyama (1965) records the vernacular variant "ito-hoshi-kusa", says that the taxon is found only in the northern districts of Honshu island, and that it differs from the typical form of the species

in having the "Staminate calyces deeply 3-fid, otherwise with the characters of the typical phase."

ERIOCAULON NEESIANUM Körn.

Additional & emended bibliography: Körn., *Linnaea* 27: 585 & 628—630. 1856; Körn. in *Mart., Fl. Bras.* 3 (1): 285. 1863; Moldenke, *Phytologia* 19: 348 & 464. 1970.

ERIOCAULON NEGLECTUM Ruhl.

Additional bibliography: Moldenke, *Phytologia* 20: 15. 1970.

Additional citations: BRAZIL: Mato Grosso: Hatschbach & Guimaraes 21848 (N).

ERIOCAULON NEO-CALEDONICUM Schlecht.

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 172, 173, & 189. 1969; Moldenke, *Phytologia* 19: 409. 1970.

Additional citations: NEW CALEDONIA: Hürlimann 1498 (N).

ERIOCAULON NIGERICUM Meikle

Additional & emended bibliography: Meikle & Baldwin, *Am. Journ. Bot.* 39: 44—46 & 50, fig. 1—8. 1952; Moldenke, *Phytologia* 18: 349. 1969.

ERIOCAULON NIGRUM H. Lecomte

Additional bibliography: Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 184 & 186. 1969; Moldenke, *Phytologia* 19: 83 (1969) and 19: 453. 1970.

ERIOCAULON NILAGIRENSE Steud.

Additional bibliography: Moldenke, *Phytologia* 20: 15—16. 1970.

Koyama found this species to be locally abundant in swampy depressions in wet black Patana grasslands along streams with grasses at 7200 feet altitude and along the wet edges of narrow streams mixed with Fimbristylis monticola and Carex arnottiana. Kingdon-Ward tells us that it is the "largest species of the genus locally in bogs in the forests where the Adiantum fern grows" — the fern being represented by Kingdon-Ward 18663. He states that the pipewort plants are 18—20 inches tall. Recent collectors have found the species in flower and fruit in March, May, and July.

Additional citations: INDIA: Khasi States: Kingdon-Ward 18665 (N). CEYLON: Koyama 13521 (N), 13642 (N).

ERIOCAULON NIPPONICUM Maxim.

Additional bibliography: Moldenke, *Phytologia* 2: 375 & 376 (1947), 2: 494 (1948), and 3: 143 & 144. 1949; Koyama in Ohwi, *Fl. Jap.* 265 & 266. 1965; Tomlinson in C. R. Metcalfe, *Anat. Monocot.* 3: 186 & 191. 1969; Moldenke, *Phytologia* 19: 334 & 348. 1970.

Koyama (1965) records the vernacular variant "ito-imu-no-hige" and states that the plant is "quite common" in wet places in the lowlands of Hokkaido, Honshu, Shikoku, Kyushu, Korea, and China.

Murata found it growing at 300 meters altitude.

Additional citations: JAPAN: Honshu: Murata 15306 (W-2409658).

ERIOCAULON NOSORIENSE Ohwi

Synonymy: Eriocaulon nanellum var. nosoriense (Ohwi) Ohwi & Koyama ex Koyama in Ohwi, Fl. Jap. 270. 1965.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Koyama in Ohwi, Fl. Jap. 270. 1965; Moldenke, Phytologia 18: 357 & 363. 1969.

Koyama (1965) records the vernacular variant "nosori-hoshi-kusa" for this plant and says that the taxon differs from E. nanellum Ohwi only in having the "Pistillate flowers with irregular deeply 3-fid calyces ciliolate on margin, the petals sparsely pilose inside".

ERIOCAULON NOVOGUINEENSE Van Royen

Additional bibliography: K. U. Kramer, Excerpt. Bot. A.6: 33. 1963; Moldenke, Phytologia 19: 349. 1970; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970.

ERIOCAULON NUDICUSPE Maxim.

Additional bibliography: Moldenke, Phytologia 3: 144. 1949; Koyama in Ohwi, Fl. Jap. 266 & 268. 1965; Moldenke, Phytologia 19: 349. 1970.

Koyama (1965) records the vernacular names "konpeitō-sō" and "shiratama-hoshi-kusa" for this plant and describes it as being "locally abundant" in wet places around springs in low hills on Honshu island.

ERIOCAULON OFFICINALE Körn.

Emended synonymy: Eriocaulon officinalis Körn. in Mart., Fl. Bras. 3 (1): 508, sphalm. 1863.

Additional & emended bibliography: Körn. in Mart., Fl. Bras. 3 (1): 288, 475, 480, & 508. 1863; Moldenke, Phytologia 19: 349. 1970.

ERIOCAULON OLIVACEUM Moldenke

Additional & emended bibliography: Moldenke, Phytologia 1: 320, 351, & 355. 1939; Moldenke, Alph. List Cit. 1: 186. 1946; Moldenke, Phytologia 18: 361. 1969.

ERIOCAULON OMURANUM Koyama

Bibliography: Koyama in Ohwi, Fl. Jap. 266 & 267. 1965.

Koyama (1965) reports the vernacular name "shinano-inu-no-hige" for this species and avers that the plant is known thus far only from the type locality, Lake Shirakaba, in Shinano Province, Honshu, Japan.

ERIOCAULON OREADUM Van Royen

Additional bibliography: K. U. Kramer, Excerpt. Bot. A.6: 33. 1963; Moldenke, Phytologia 19: 67 & 84-85. 1969; G. Taylor, Ind. Kew. Suppl. 14: 54. 1970.

[to be continued]